

Appl. No. 10/732,840
Amdt. Dated 9/28, 2005
Reply to Final Office Action of February 18, 2005

REMARKS/ARGUMENTS

This amendment is responsive to the Final Office Action mailed on August 2, 2005. In the Office action, claim 11 was rejected under 35 U.S.C. §102 (b) as being anticipated by Schild (U.S. Patent No. 5,828,727, hereinafter "Schild"). Claims 1, 3, 5 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild in view of Chidester et al. (U.S. Patent No. 6, 438, 207, hereinafter "Chidester"). Claims 2 and 6 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester in view of Danos (U.S. Patent No. 5,029,195). Claim 12 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild in view of Danos. Claim 8 is rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester. Claim 9 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester in view of Danos. Claims 4, 7, and 10 were objected to but were deemed allowable if rewritten in independent form. In this amendment, claims 1, 5, 7, 8, 10, and 11 were amended to recite the claimed subject matter more clearly. No new matter has been added.

Claims 1-3 and 5-12 remain pending in this application. Reconsideration in light of the above amendments and the following remarks is respectfully requested.

Claims define allowable subject matter over the applied art

Claim 11 was rejected under 35 U.S.C. §102 (b) as being anticipated by Schild. Applicant has carefully reviewed the applied reference, and Applicant respectfully traverses the rejection of amended independent claim 11 under 35 U.S.C. §102 (b) as being anticipated by Schild. To anticipate a claim under 102, each and every element of the claim must be taught by the reference.

Applicant respectfully submits that Schild does not teach, disclose or suggest at least the claim recitations of " means for accelerating electrons in said electron beam

Appl. No. 10/732,840

Amdt. Dated 9/28, 2005

Reply to Final Office Action of February 18, 2005

away from said generating means, wherein **the means for accelerating electrons is located in a central recess of an anode surface**" (emphasis added), as recited in the amended independent claim 11.

Applicant respectfully reiterates that the methods and systems described in the Applicant's application are directed towards providing a more focused electron beam path in an x-ray source, for improved characteristics of the resulting x-ray beam. In certain embodiments, the "accelerating electrode 102" in Applicant's application is used as an "accelerating means", for accelerating the electrons and for focusing the electron beam to get an improved focal point. Further, the accelerating means is located in a central recess of an anode surface in the Applicant's claimed invention. There are several advantages associated with such positioning of the accelerating electrode (see e.g., page 5 of the Applicant's application). On the other hand, as mentioned in the previous Office Action Response, Schild is directed towards reducing the impact of the back-scattered electrons on the x-ray window. Schild is completely devoid of any disclosure, teaching or suggestion that can lead to the recitations of "the means for accelerating electrons is located in a central recess of an anode surface" as recited in the amended claim 11. The Final Office Action refers to "electrode 4" in Schild as "means for accelerating electrons" since Schild describes it as a Wehnelt electrode. Even then, Schild is completely devoid of any teaching, disclosure or suggestion about positioning of the electrode 4. Figure 1 in Schild clearly shows that electrode 4 is housed in a cathode arrangement 3 inside a chamber referenced by the reference numeral 24 (there is no mention in the text of Schild to this reference numeral). It is clear from the illustration in Figure 1 that electrode 4 in Schild is clearly not located in any central recess of the anode 7. Thus the Applicant respectfully submits that the amended independent claim 11 is not anticipated by Schild under 35 U.S.C. §102 and therefore, is allowable.

In view of the foregoing remarks, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §102 (b).

Appl. No. 10/732,840

Amdt. Dated 9/28, 2005

Reply to Final Office Action of February 18, 2005

Claims 1, 3, 5 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild in view of Chidester. Applicant respectfully traverses the rejection of independent claims 1 and 5, as amended, under 35 U.S.C. § 103(a) as being unpatentable over Schild in view of Chidester.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.

Applicant respectfully submits, that as explained above, in relation with the 102 argument, Schild similarly does not teach, suggest or disclose the claim recitations of "wherein the accelerating electrode is placed in a central recess of an anode surface" of the amended claim 1 and recitations of "an accelerating electrode positioned in a central recess of an anode surface" of the amended claim 5. As discussed above, there is no disclosure, teaching or suggestion in Schild about the position of accelerating electrode.

Chidester merely discloses a system for generating multiple focal spots (column 4, lines 65-67; column 5, lines 19-23). Irrespective of what Chidester discloses or does not disclose, it is a well established law that obviousness cannot be established by combining pieces of prior art absent some teaching, suggestion, or incentive supporting the combination. Applicant respectfully reiterates that Schild and Chidester are directed to distinct objectives. That is, Schild focuses on back scattering issue, whereas Chidester focuses on multiple focal spots. Thus, there is no motivation in Schild that may lead to combining of Schild with Chidester. The Final office action did not respond to this issue, raised in the previous office action response. Further, even if these references were to be combined, Chidester still does not overcome the deficiencies of Schild, as discussed above. Hence any combination of Chidester with Schild will still not yield the Applicant's invention as recited in amended independent claims 1 and 5.

Accordingly, Applicant respectfully submits that independent claims 1 and 5, as amended, define allowable subject matter over the applied art. Claim 3 depends directly from the amended claim 1. Applicant respectfully submits that amended claim 1

Appl. No. 10/732,840
Amdt. Dated 9/28, 2005
Reply to Final Office Action of February 18, 2005

is patentably distinct from the applied references for the reasons discussed above and that claim 3 is similarly allowable over the applied references.

Claims 2 and 6 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester in view of Danos. Claim 2 depends from independent claim 1 and claim 6 depends from independent claim 5.

Applicant respectfully submits, that as explained above, Schild does not teach, suggest or disclose the claim recitations of "the accelerating electrode is positioned in a central recess of an anode surface" of the amended claims 1 and 5. The Applicant reiterates that there is no motivation in Schild for a combination with Chidester.

Danos does not overcome the deficiencies of Schild as discussed above. Danos merely discloses systems and methods for optimizing x-ray emission with a sweeping, a non-sweeping pencil beam, flat or broad beam (column 1, lines 59-62). Further, Danos, like Schild, is also completely devoid of any disclosure, teaching or suggestion for accelerating electrode having a selectable shaped aperture as recited in independent claims 1 and 5, as amended. Thus the above mentioned claim recitations of independent claims 1 and 5 are still not described in Danos. Therefore, the combination of Danos with Schild will not yield the Applicant's invention as recited in independent claims 1 and 5, as amended. Thus, the Applicant respectfully submits that independent claims 1 and 5 define allowable subject matter over the applied art. Claim 2, as amended depends directly from the amended claim 1, and the amended claim 6 depends directly from amended claim 5, and are similarly allowable.

Claim 12 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild in view of Danos. Claim 12 depends directly from independent claim 11.

Applicant respectfully submits, that as explained above, in association with the 102 argument, Schild does not teach, suggest or disclose the claim recitations of independent claim 11, as amended. Danos is similarly devoid of any disclosure,

Appl. No. 10/732,840
Amdt. Dated 9/28, 2005
Reply to Final Office Action of February 18, 2005

teaching or suggestion about "wherein the means for accelerating electrons is located in a central recess of an anode surface", hence no combination of Schild with Danos will yield the Applicant's invention as recited in the amended independent claim 11. Amended claim 12 depends directly from the amended claim 11, and therefore is similarly allowable.

Claim 8 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester. As explained above there is no motivation in Schild for a combination with Chidester. Obviousness cannot be established by combining pieces of prior art absent some teaching, suggestion, or incentive supporting the combination. Thus, the Applicant respectfully submits that independent claim 8, as amended defines allowable subject matter over the applied art. Further, even if these references were to be combined, the combination still does not disclose, teach or suggest the claim recitation of "an accelerating electrode positioned in a central recess of an anode surface", as recited in amended claim 8.

Claim 9 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester in view of Danos. Claim 9 depends directly from the independent claim 8.

Applicant respectfully submits that as explained above, the amended claim 8 is allowable over Schild and Chidester. Also, Danos does not overcome the deficiency of Schild. Specifically there is no disclosure, teaching or suggestion in Danos about the claim recitation of "an accelerating electrode positioned in a central recess of an anode surface" of the amended independent claim 8. Thus, the Applicant respectfully submits that the amended independent claim 8 defines allowable subject matter over the applied art. Amended claim 9 depends directly from the amended claim 8 and is similarly allowable.

Accordingly, Applicant respectfully submits that the subject Office Action did not

Appl. No. 10/732,840
Amdt. Dated 9/28, 2005
Reply to Final Office Action of February 18, 2005

make a prima facie case of obviousness for the independent claims 1, 5, 8 and 11, as amended. Claim 2, and claim 3 depend directly or indirectly from the amended claim 1 and claim 6, depends directly from amended claim 5, claim 9 depends directly from amended claim 8, and claim 12 depends directly from amended claim 11. Applicant respectfully submits that amended independent claims 1, 5, 8 and 11 are patentably distinct from the applied references for the reasons discussed above and that claims 2, 3, 6, 9, and 12 are similarly allowable over the applied references.

Summary

In view of the foregoing, Applicant respectfully submits that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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